

Communication and Use of STAR METRICS Data

J. T. English

Communications Working Group



Focus of Communication: Federal / State legislators and staffers

An Example: University of Missouri (MU)

- Located in Columbia, MO
- One of four campuses of the University of Missouri system (UM)
- Missouri's Land-grant Institution
- Comprehensive Academic programs
- The main research campus within the UM system

University Missions

- Teaching
- Research
- Service
- Economic Development

Communication with Legislators and Staff

Those involved with communications at MU

- Director, Government Relations
- Vice-Chancellor of Research
- Director, Institutional Research
- Others

Typical Practices and Challenges for Communication

- MU representatives meet with legislators and staff on both regular and as-needed basis
- Conversations are brief and focus on specific topics
- Challenge to effectively present information succinctly – “no time for seminars”

Summary Information Available for MU Communications

- Office of Research Annual Report
- Impact Data Sheets
- Advancing Missouri Data
- Infographics
- STAR METRICS

Now More Than Ever, University Scientists and Scholars Deserve Our Support

BY ROBERT V. DUNCAN
Vice Chancellor for Research

DURING THE PREVIOUS fiscal year, agencies of the United States government awarded MU faculty scientists and scholars close to \$170 million for sponsored research and instruction and public service projects.

These dollars, the life's blood of MU's research enterprise, were generated mostly through competitive submission processes involving researchers from many of the nation's top institutions. Only the most important projects from the best investigators eventually gain support.

That MU has been so consistently well represented among projects selected for sponsorship is a testament to the energy, ambition and excellence of our faculty. Thanks in large part to their efforts, the University has not just enhanced its position as one of the nation's premier centers of research and higher learning, but has also emerged as a major force in Missouri's economic development. In recent years, for example, companies licensing MU-generated intellectual property have tallied over \$1 billion in sales.

The still precarious state of our nation's economic recovery — as well as intensifying competitive pressures from across the globe — make it imperative that we continue to support the economy-enhancing work of our scientists and scholars.

Instead, just the opposite is happening. Drastic cuts in federal discretionary spending, the result of the so-called sequester, threaten to severely weaken the ability of universities like MU to continue the scientific research and development activity that our nation so desperately needs. This is a profound threat to both the nation's long-term growth prospects and to the financial well-being of thousands of Missourians.

According to data compiled by Science Works For U.S., a project of the Association of American Universities, the Association of Public and Land-grant Universities, and The Science Coalition, sequestration will reduce federal funding for scientific research by nearly \$95 billion over the next nine years, which will result in a reduction of U.S. GDP by at least \$203 billion. The net impact could be 200,000 fewer jobs — many of them in important, well-paying high-tech fields — for each year between 2013 and 2016.

Here at MU, in the current year alone close to \$17 million in previously awarded federal funds are in peril, about 10 percent of the university's federal funding for research. Such cuts are of particular concern given the importance of several of MU's newly funded investigations, many of which, ironically, have the potential to save the federal treasury millions. Among the most noteworthy:

- A four-year, \$14.8 million grant from the U.S. Department of Health and Human Services' Centers for Medicare and Medicaid Services to the Sinclair School of Nursing and Curators' Professor



Vice Chancellor for Research
Robert Duncan

Expenditures and Awards

In this report you will encounter charts and graphs that reflect the extent of funders' involvement in MU research. Some are expressed in terms of "expenditures," which represent resources spent by a researcher during a given fiscal year. Others are expressed as "awards," which show the total amount of funds available for use, money often expended over a period of years.



of Nursing Marilyn Rantz. Rantz and her team of MU researchers will use the funds to discover ways of reducing avoidable "re-hospitalizations" among nursing home residents. Unnecessary hospital admissions not only imperil the well-being of patients, but are a significant driver in pushing up national health care costs.

- A \$3 million grant from the USDA to Jerry Taylor, the Wurdack Chair in Animal Genomics at MU, to determine what specific genes play a role in breeding problems and other issues in the cattle industry — a project that could significantly increase the efficiency of cattle reproduction.

- A \$2.4 million grant from the Substance Abuse and Mental Health Services Administration to establish a Terrorism and Disaster Center that will train mental health providers to aid communities before and after natural and man-made disasters.

Last summer, MU Chancellor Brady Deaton was signatory, along with the leaders of every major research university in the nation, to a letter to Congress that neatly summed up the reasons why the sequestration cuts should be reversed. "Americans know that investments in education and scientific research pay long-term dividends," the letter read.

"Federal support for scientific research and student financial aid laid the foundation for the dramatic expansion of the 20th century U.S. economy and can do the same in the 21st. These investments produce the people and the ideas that lead to new products, new businesses, and entire new industries, as well as the jobs that go with them.

"... As national leaders in higher education, we urge you to show America and the world that our country's political system is capable of solving serious problems. The choices will not be easy, but throughout our nation's history, American leaders have overcome great challenges with difficult decisions and sensible compromises. Please do so again and do so now."

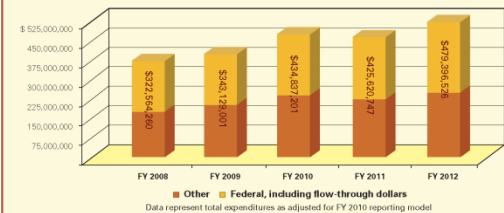
I am confident all of our faculty scientists and scholars would endorse this view, as would, I hope, every Missourian who cares about the continued vitality of research and scholarship. Let's make sure our federal representatives hear it from all of us: Now more than ever, MU scientists and scholars deserve our support.

Externally Sponsored Grants and Contracts

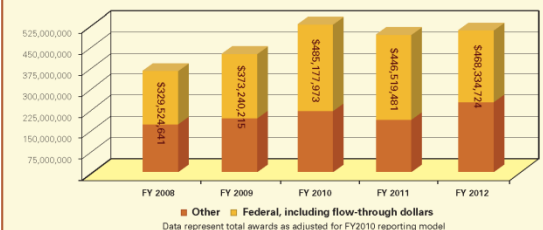
FY 2012 TOTALS

During the previous fiscal year, scientists and scholars at the University of Missouri generated record levels of sponsored research and instruction and public service support. Totals in this year's report, as seen below, have been calculated to include funding related to academic enterprises — an approach intended to more accurately reflect the size and scope of MU's research and scholarly enterprise.

Total Expenditures, Five-year Trend

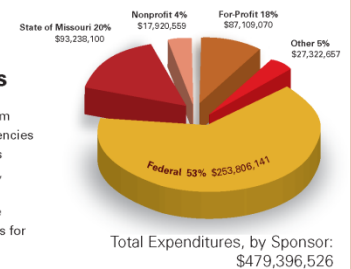


Total Awards, Five-year Trend



Expenditures Up as Federal, State Funding Increases

Increased levels of funding from federal, state and for-profit agencies helped boost MU expenditures in FY 12. Over the past decade, investigators at MU have been consistently ranked among the nation's leaders in growth rates for externally supported projects.





Impact on U.S. Congressional District 4

The District at a Glance



Population: 748,616

- UM Students: 8,821
- UM Alumni: 32,939
- UM Employees: 19,380
- UM Salary & Retirement Income: \$873,396,619
- UM State Tax Revenue: \$31,838,477
- UM Federal Tax Revenue: \$142,614,258

UM Students from the District in 2012

- 8,821 students
 - 7,092 - MU
 - 1,081 - UMKC
 - 598 - Missouri S&T
 - 50 - UMSL
 - 4,694 - Undergraduates
 - 4,127 - Graduates
 - 6,665 - Full-time students
 - 2,156 - Part-time students

UM Employees and Retirees Residing in the District in 2012

- 19,380 people employed by UM
 - 14,011 - MU
 - 137 - UMKC
 - 120 - Missouri S&T
 - 25 - UMSL
 - 4,650 - UM Health Care
 - 437 - UM System
- 3,703 UM Retirees and Beneficiaries

UM Alumni Residing in the District in 2012

- 32,939 alumni
 - 27,710 - MU
 - 3,354 - UMKC
 - 1,272 - Missouri S&T
 - 603 - UMSL
- 11,722 Selected School Alumni
 - 867 - Medicine
 - 1,474 - Nursing
 - 1,072 - Health Professions
 - 311 - Dentistry
 - 288 - Pharmacy
 - 53 - Optometry
 - 319 - Veterinary Medicine
 - 3,345 - Agriculture
 - 2,736 - Engineering
 - 1,257 - Law

UM Alumni Teaching K-12 in the District in 2012

- 1,645 teachers
- 20% of all district teachers
- 117 principals and administrators
- 26% of all district principals and administrators

UM Services Received in the District in 2012

- 113,568 patients seen at UM Health Care, with \$29,894,576 of uncompensated care.
- 11 patients seen at the UMSL Center for Eye Care with an average of \$85 per patient in uncompensated care.
- 1,374 patients seen at the UMKC School of Dentistry with an average of \$36 per patient in uncompensated care.
- 362,130 contacts with MU Extension through MU Extension events held in district counties.

UM Construction Projects involving Vendors located in the District in 2012

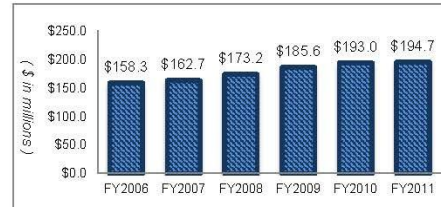
- 66 vendors involved with 129 projects, for \$26.5 million.

Select UM Properties in the District

Bradford Farm, Ellis Fischel Cancer Research Center, Foremost Dairy, Foremost Dairy - Kirby Tract (Leased), Green Meadows, Holstein Dairy, Horticulture and Agroforestry Research Center, KOMU TV, Lemone Industrial Complex, Middlebush Farm, MU Campus, Rocheford Turkey Farm, Schnabel Forest, Sinclair Farm, South Farm, Thompson Center for Autism, University Hospital, Women's and Children's Hospital

Impact on U.S. Congressional District 4

UM Research Expenditures Funded by Federal and Private Sources



Economic Development Highlights

- With \$3.2 billion in total revenues, UM would have been the 17th largest publicly held Missouri-headquartered company in the state in 2012.
- With more than 31,000 employees in the state, UM was Missouri's 2nd largest employer in 2011.
- In 2010, UM's \$169 million in federal science and engineering research expenditures represented 93% of these expenditures at Missouri public universities.
- In 2012, UM's \$22.3 million in National Science Foundation (NSF) awards represented 80% of all NSF awards made to Missouri public universities.
- UM earned \$6.8 million in licensing income in 2012.
- UM received 163 new invention disclosures in 2012.
- 8 startups were created around UM technologies in 2012.
- UM was issued 34 U.S. patents and filed 69 new U.S. patent applications in 2012.

Electronic Services to the State in 2012

- The Missouri Research & Education Network (MOREnet) provided internet connectivity and technical services to members that include:
 - 64 higher education institutions with more than 308,000 students.
 - 500 K-12 schools with 868,000 students and 76,000 faculty.
 - 134 public libraries connecting 345 library buildings that serve 5.4 million Missourians.
- MOREnet returned \$13 million in telecommunications expenditures to companies doing business in Missouri.

Financial Aid Provided to UM Students in 2012

- \$871.2 million
 - \$432.1 million - MU
 - \$202.2 million - UMKC
 - \$97.5 million - Missouri S&T
 - \$139.4 million - UMSL

Impact on Education in 2011

- UM enrolled 50% of first-time undergraduates attending four-year public institutions in 2011.
- UM awarded 49% of the 1,130 doctoral degrees earned in Missouri.
- UM awarded 42% of the 1,937 first professional degrees earned in Missouri.
- UM awarded 54% of the 28,798 bachelor's or higher degrees awarded by Missouri's four-year public institutions.

Supporting the University of Missouri is an investment in the future of Missouri.

The university advances Missouri citizens and communities through its mission of teaching, research, public service, and economic development across our four campuses and University of Missouri Extension.

Prepared in December 2012, based on the best available data.

Data Sources include: Missouri Office of Administration • UM IRP • Office of Social and Economic Data Analysis (OSEDA) • Center for Applied Research and Environmental Systems (CARES) • MU • UMKC • Missouri S&T • UMSL • UM System • UM Health Care • MU Extension • US Census Bureau • US Dept of Health and Human Services • National Science Foundation

AdvancingMissouri.

[INSIDE UM SYSTEM](#) | [A-Z INDEX](#) | [NEWS](#) | [HELP](#)

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- HOW YOU CAN HELP



Every person. Every day.



From health to education—from the arts to agriculture—and everything in between, the University of Missouri System has a unique and important statewide role in Advancing Missouri. We are the difference the University of Missouri makes in each of Missouri's 114 counties by bringing a county from the adjacent map.

[Share Your Story](#)

ST. FRANCOIS COUNTY
193 UM Students
1,047 UM Alumni
\$620,664 Economic Impact

Latest story:



Farmington is Home to a Missouri Talahaalth Nahant



University of Missouri System
COLUMBIA | KANSAS CITY | ROLLA | ST. LOUIS

FEATURED
STORIES

ADVANCING
MISSOURI

AT YOUR
SERVICE

SHOW
ME VALUE

ENGAGE
WITH US

INSIDE
UM SYSTEM



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St. Francois County

HIGHLIGHTS

193

Total UM Students

1,047

Total living UM Alumni

62

UM Alumni teaching K-12

22

People employed by UM

\$709,123

Approx. tax revenue/income generated by
UM employees/retirees

[View the full
datasheet \(PDF\)](#)

RELATED STORIES



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By the Numbers

COUNTY

CONGRESSIONAL DISTRICT

STATE HOUSE DISTRICT

STATE SENATE DISTRICT

View campus information: [Columbia](#) | [Kansas City](#) | [Rolla](#) | [St. Louis](#)

St. Francois County grad talks about Engineers Without Borders experience

Jake Midkiff of Farmington said the volunteer experience through Missouri University of Science and Technology showed him how engineering can help individuals and communities.

Students from Missouri S&T used their passion for engineering to show their compassion for residents in two tiny villages in Bolivia and Guatemala.

Two groups from S&T's [Engineers Without Borders](#) (EWB) helped install a latrine system for the high school in Inka Katurapi, Bolivia, and helped homeowners rebuild their two-room dwellings in Jerez, Guatemala.

"For me, EWB shows you how much you can do with an engineering background," says Jake Midkiff, who studied geological engineering at S&T. "It's very rewarding. When you go to wonderful places like Inka Katurapi, it changes the way you look at things. The residents work so hard for what they have and it's amazing how happy they are. It really puts life into perspective."

[READ MORE>>](#)

Posted on Nov 01, 2010.



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ABOUT THIS STORY

Campus: [Missouri S&T](#)
Key words: [Rolla Campus](#), [Technology](#)
County: [St. Francois](#)

COMMENTS



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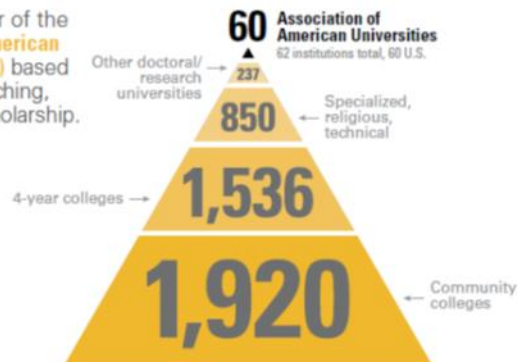
Facebook social plugin

MIZZOU MEASURES UP

MU is **accessible, affordable** and **accountable** to citizens.
Here are examples of our progress.

MU IS A NATIONALLY COMPETITIVE, GLOBAL UNIVERSITY.

MU is a member of the **Association of American Universities (AAU)** based on quality of teaching, research and scholarship.



More information about the Association of American Universities: aaup.edu

MU CONDUCTS MILLIONS OF DOLLARS IN FEDERAL RESEARCH.

RESEARCH & DEVELOPMENT
EXPENDITURES, FY2012:
**\$114.3
MILLION**

Research at Mizzou:
research.missouri.edu

Generous supporters worldwide invest in Mizzou. Private gifts **enrich programs and facilities, support faculty** and **make an MU education more accessible.**

IN FY2012, ALUMNI AND
FRIENDS MADE

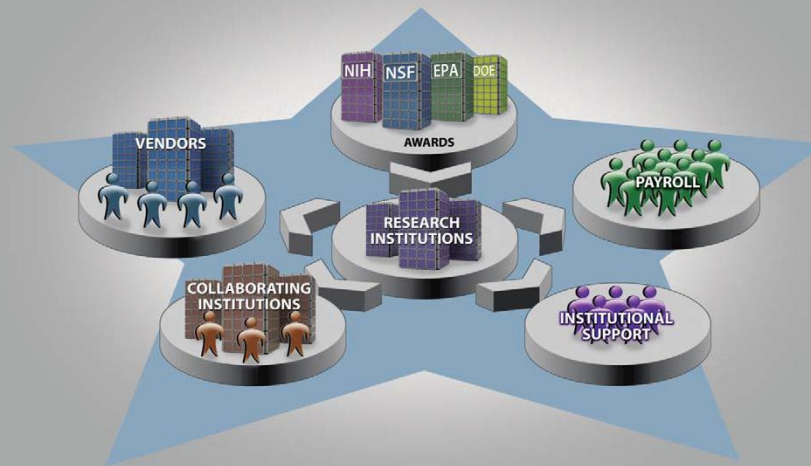


Give to Mizzou: giving.missouri.edu

SINCE 2007,
MIZZOU ALUMNI ASSOCIATION
MEMBERSHIP HAS GROWN BY
24.6 PERCENT,
PROVIDING MORE FINANCIAL SUPPORT
FOR **SCHOLARSHIPS, FACULTY GRANTS**
AND **ALUMNI PROGRAMS.**

Join the Mizzou Alumni Association: mizzou.com

Federal Funding for Science and Jobs
STAR METRICS Report
for
Star State University
2011_Q3



STAR METRICS Data of Interest

**2011_Q3 RESULTS for
Star State University**

Number of federal science awards:

2,944

Total number of distinct
individuals supported on payroll
through science awards:

9,267

Number of FTEs supported on
payroll at through science awards:

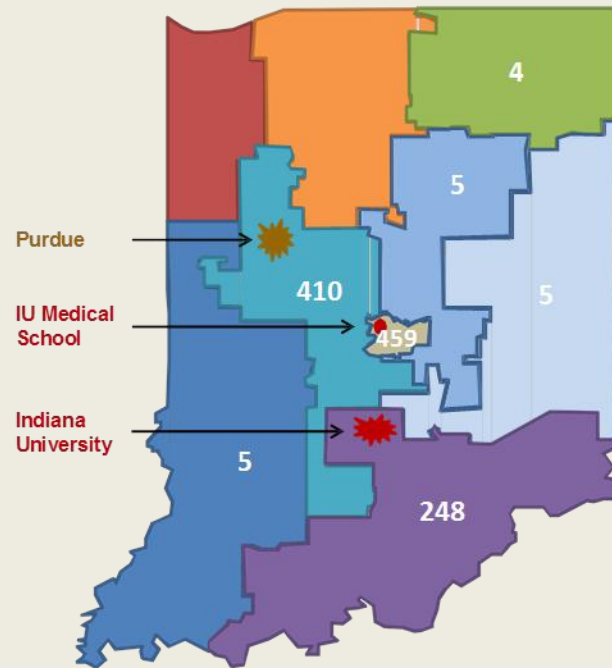
3,676

Number of vendor, sub-award, and
institutional support jobs
supported through science
awards:

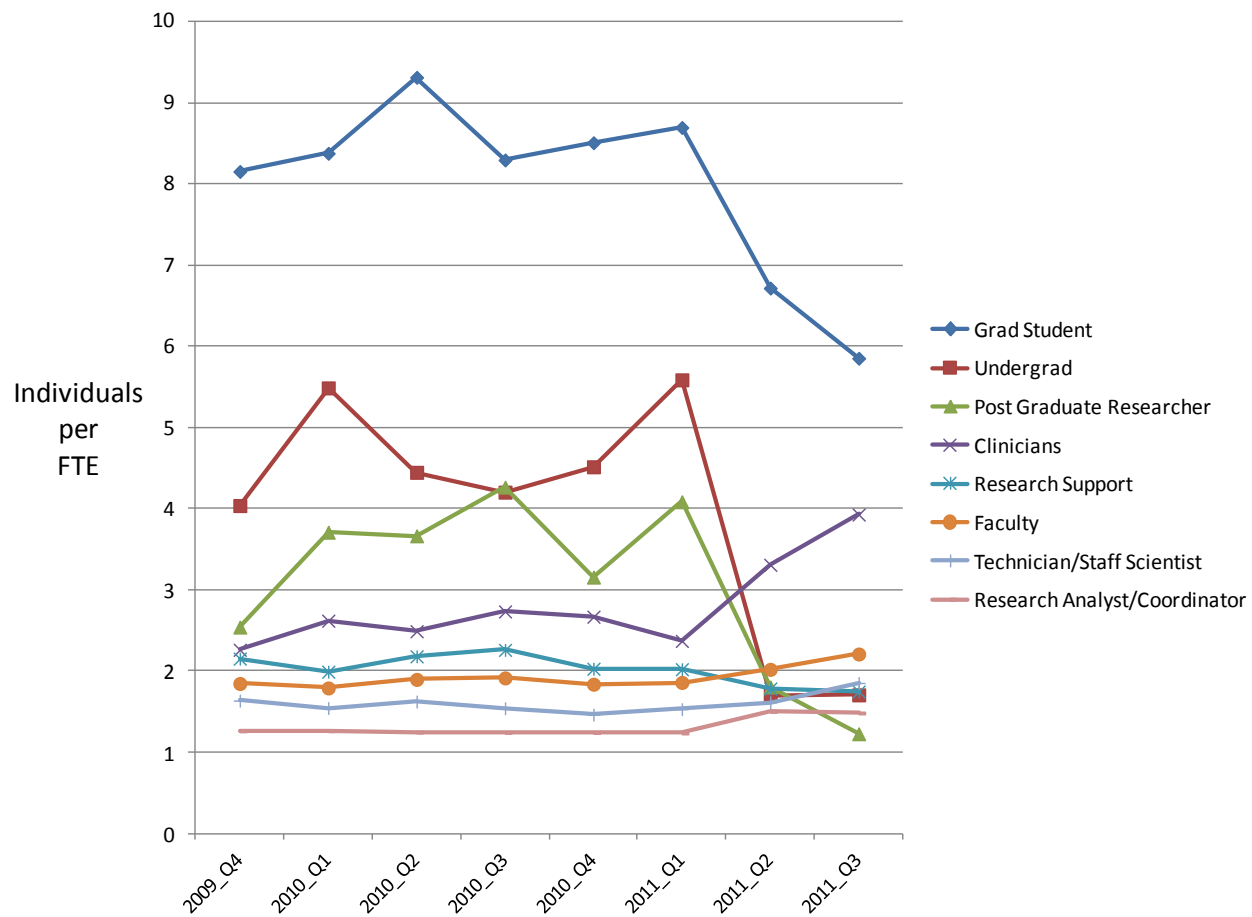
1,129

Average number of counties in
Pennsylvania where jobs are
directly traceable to science
spending:

28



Number of jobs created by science funding
By congressional district



Data Utility

- STAR METRICS data can complement/enhance other impact information
 - Statistics
 - Stories
- Presentation format of STAR METRICS data will be important with focus on simplicity
- STAR METRICS data can assist with discussion of specific issues – e.g. workforce development; benchmarks

MIZZOU GRANTS

25%

OF BACHELOR'S DEGREES FROM MISSOURI PUBLIC UNIVERSITIES.

MU grants 23% of master's degrees, 36% of first-professional degrees and 65% of doctoral degrees from Missouri public universities.

First-professional degrees are in law, medicine and veterinary medicine.

Mizzou **educates the workforce.**

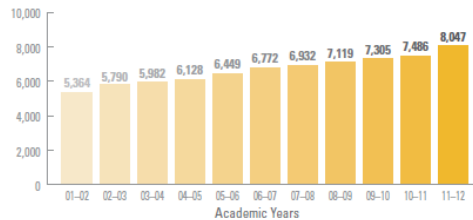


8,047

DEGREES GRANTED, 2011-12

ROUGHLY **1 IN 3** DEGREES AWARDED ARE IN MATH, ENGINEERING, TECHNOLOGY AND OTHER SCIENCE FIELDS.

MU awards **more degrees** each year.



Mizzou's licensing income from the commercialization of new technologies has reached more than **\$39 million** since FY2008, a **93 percent increase** compared to fiscal years 2003-07. **18 startup companies** have licensed MU technology in the last five years.



SINCE FY2008, MU HAS FILED

365
U.S. PATENTS

AND SIGNED
227
OPTIONS & LICENSES

FOR NEW TECHNOLOGIES DEVELOPED AT THE UNIVERSITY.

EVERY WEEK, THE ECONOMY BENEFITS AS MIZZOU RAISES AN AVERAGE OF **\$1.6 MILLION** IN PRIVATE DONATIONS AND ATTRACTS **\$2.8 MILLION** IN FEDERAL FUNDING.

During fiscal years 2010-12, **MU EXTENSION'S BUSINESS DEVELOPMENT PROGRAM** alone generated **\$2.5 billion** in economic impact for Missouri's economy, helping clients

increase sales by
\$986 MILLION
win
\$857 MILLION
in government contracts
create
25,235 JOBS

MU is proud of the faculty, students and staff who are responsible for these achievements.



University of Missouri

ADDITIONAL MU DATA:

MU Institutional Research: ir.missouri.edu, College Portrait: collegeportraits.org/MO/MU